TORONTO'S UNDERGROUND CITY

by Newton Frank Arthur Inc.
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Mr Stephen G McLaughlin, Commissioner of Planning and Development,
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MR McLAUGHLIN, we have pleasure in transmitting to you herewith ten (10) copies of our feasibility report on Wayfinding in Toronto's underground city.

Yours truly,

Newton Frank Arthur Inc.

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TORONTO'S UNDERGROUND CITY

A study to determine the feasibility of installing a uniform wayfinding system as a means of overcoming current under-utilization and marketing it effectively as an entity

prepared for Mr. Stephen G. McLaughlin
Commissioner of Planning and Development
City of Toronto Planning and Development Department

by Newton Frank Arthur Inc.
in association with
Agnew Communications Inc.

Toronto, July 1986

Jan Morris on Toronto's underground city

Among the innumerable conveniences of Toronto, which is an extremely convenient city, one of the most attractive is the sytem of tunnels which lies beneath the downtown streets, and which, with its wonderful bright-lit sequences of stores, cafes, malls, and intersections, is almost a second city in itself. I loved to think of all the warmth and life down there, the passing crowds, the coffee smells, the Muzak, and the clink of cups, when the streets above were half-empty in the rain, or scoured by cold winds; and one of my great pleasures was to wander aimless through those comfortable labyrinths, lulled from one Golden Oldie to the next, surfacing now and then to find myself on an unknown street corner far from home, or all unexpectedly in the lobby of some tremendous bank.

Jan Morris, quoted from an article in the June 1984 issue of **Saturday Night**

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EXECUTIVE SUMMARY

A. The assignment

Subject: The Toronto underground pedestrian walkway system is by all accounts the largest in the world. However, because of an almost total lack of wayfinding devices to assist people in finding or using it, it has become one of the City's best-kept secrets and is therefore underutilized.

The Economic Development Committee recommended to City Council the funding of a study to determine the feasibility of installing a uniform system of wayfinding devices there that would lead to increased traffic and sales.

Objectives of the study: To determine the feasibility of:
-enhanced wayfinding in terms of accessing the system and using it
- integrating the dual downtown core pedestrian systems above and below grade level
- increasing tourism and economic activity through increased use and thus sales
- enhancing civic pride
- ensuring the maintenance of the info system in future years
- promotion and marketing of the entire underground city complex as an entity.

The consultants: Newton Frank Arthur Inc. in association with Agnew Communications Inc., both of Toronto. The principals involved were Paul Arthur and Arnold Agnew.

The costs: The cost of the study approved by City Council was $20,000. The cost to complete the design and installation of the proposed system, and to establish the recommended administrative structure for its continued utilization and for the promotion of the complex is estimated at $950,000.

B. Recommendations

1. The development and installation of a uniform wayfinding system is desired, necessary and feasible and should be implemented immediately.

2. For purposes of identification and promotion, the entire underground city complex should be named. Our recommendation is T·O·BELOW.

3. The implementation, management, maintenance and operation of the system and the promotion and marketing of the entire T·O·BELOW complex should be in the hands of a private corporation acting on behalf of the property owners and the City.

4. The corporation should be operated on a self-sustaining basis and ensure that the initial investment by the owners and the City is returned to them.

5. The share of the initial investment by the City should be approximately 25% with the property owners supplying the balance.

6. The structure and objectives of the private corporation, as outlined in the Sanlisco Report (see Appendix 4.5) should be approved in principle.

7. In order to protect the name and to ensure its availability, Sanlisco has incorporated an Ontario company under the name T·O·BELOW, Inc. Sanlisco should be authorized to develop and submit a detailed proposal for the company and its operation for approval by the City and the property owners.

PART 1: INTRODUCTION

1.1 Toronto's underground pedestrian system

1.1.1 A brief description

A. Toronto's underground pedestrian walkway system is a network of shopping arcades connected by tunnels between the complexes or "blocks" which make up this underground city. Altogether there are well over 5 km of these arcades and tunnels and new ones currently under construction will add substantially to this figure.

B. The system interconnects some thirty office towers, twenty or so parking garages, three hotels and about a thousand retail shops (no one really knows exactly how many there are), two major department stores, five subway stations and a railway/ transit terminal.

C. There are well over a hundred and twenty-five grade level access points of one type or another, major, less major and quite small. In addition, there are some thirty-odd below grade connections between the complexes.

D. There are sixty or more decision points where a person is literally forced to decide whether to turn to the left, the right or to proceed straight on.

E. Toronto's underground city represents a level of commercial cooperation unknown anywhere else in North America. It is much more extensive than the Montreal system and it dwarfs anything in the United States. Although all these statements are true, it is unfortunately also true that the ingredient that has been overlooked is communications.

F. While each developer has been at some pains to provide tenants with wayfinding devices that serve that particular development, few have provided signs for visitors to help them get from one complex to the next. (It is worth noting in this context that once a "tenant" moves out of his or her environment, and crosses by tunnel into a neighboring one, they also become "visitors" and can be just as disoriented as though they had come from another city.)

G. Five TTC subway stations feed passengers into the pedestrian system and also absorb other passengers from it. Just three stops to the north there is another, smaller, underground city at Bloor Street, a subway fare away.

H. It has been remarked by the Commissioner of Highways, US Department of Transportation, that no stranger in any North American city can make intelligent use of public transit because just looking at a bus stop sign is no help whatever. Nevertheless, because users of Toronto's transit system (in the financial district, at least) can access the TTC from a station, they have the unique opportunity to make such intelligent use of the system and can therefore travel inexpensively and unaided anywhere they want to go in Metro. This is an achievement of which the City (and the TTC) should be proud. The underground pedestrian system makes it possible.

1.1.2 A brief history

A. It always comes as a distinct surprise to many Torontonians when they learn that the underground pedestrian system does not date from the fifties (although that is when its major growth period began) but from the year 1900 when the T Eaton Co joined its main store and its bargain annex (and its stables) together by tunnels.

B. By 1917 there were five such tunnels and in 1924 with the building of the Union Station, the underground tunnel connected it with the Royal York Hotel.

C. Thirty years later, in 1954, the TTC subway came to Union Station and this opened up uparallelled opportunities for growth in the financial district downtown. Four of the five major chartered banks erected head offices in this area in the late '60s and early '70s.

D. They had noted with interest the phenomenal success of the Place Ville Marie and the Place Bonaventure projects in Montreal with their interconnecting shopping malls and tunnels and decided to incorporate this concept into their own developments here.

E. While this trend reversed to some extent at least the decay of the downtown (at the expense of rapid growth in the suburbs), it also, quite paradoxically, was seen at the end of this twenty-year period (in 1974) as also being the cause. The highly successful shopping malls and arcades below the streets were seen as affecting adversely the life and prosperity of the streets themselves.

F. The result of this new perception at City Hall was a discontinuance of the contribution that the City had been making to the costs of tunnelling under the streets in order to connect two complexes.

G. At the same time, to quote David Dennis in his admirable paper prepared for delivery to the U S National Committee on Tunnelling Technology (Feb 85), it had by now "become important for new projects in the financial district to continue to offer their prospective tenants access to the amenities of the underground network". Thus from this period to the present day, the developers have shared the full cost of connecting their properties to one another with no assistance from the City.

H. At the present time, to bring this brief history into the mid-eighties, the network has become so huge, is growing so rapidly, and has become so important as a civic facility and integrated part of the downtown core that no one thinks it can continue much longer as an impenetrable maze. Obviously, the answer to the problem lies in the development of a thoroughly-effective wayfinding system.

J. This Report is in response to that felt need and is an attempt to determine the feasibility for such a system and to lay the groundwork for it.

1.1.3 Similar systems

A. Three analogous pedestrian systems come to mind in the context of any discussion of Toronto's underground system: the one in Montreal, the one in Minneapolis, and the one in Calgary.

B. Two of these three systems are above grade, actually spanning the streets between buildings while the Montreal system is, of course, below grade.

C. The Montreal system was initiated by the Place Ville Marie and the CN Place Bonaventure projects in the early and mid-sixties. Since then additional buildings and complexes have joined themselves to the underground network and it has developed a world-wide reputation - mainly through the astuteness of City promoters who advertise it regularly in such publications as The New Yorker as something worth visiting Montreal just to see.

D. If further evidence of skilful promotion of Montreal's Underground City were required, it will be found in the most recent edition of the Michelin Tourist Guide to Canada where the Montreal Underground City rates two stars, no less, along with a glowing description. By contrast, under Toronto, we find a very passing reference to buildings being "connected underground" in a section they call the "Bankcore." (As a consolation, Toronto and Montreal, as cities above ground, rate three stars!)

E. Unlike the Toronto system (from which users almost never see the outdoors), in Montreal they are frequently treated to "stolen views" of buildings in the environment which they can orient themselves by. This has been much admired and reduces the need for orientation signage. (Signage generally in the Montreal system is mediocre.)

F. The Minneapolis sytem is to the elevated (+15) concept what Montreal is to the underground city concept. It is truly worth a trip to Minneapolis to see and it is much admired from the architectural and planning viewpoints. The signage was a civic project paid for by the City and is also considered to be very effective.

G. Calgary for years studied the problem of what to do about signage for their +15 system. They went so far as to hire a full-time architect to spend a year planning a viable system (which was never implemented). Next they went out to tender for design solutions (twice in two years) and eventually hired a New York designer.

H. The +15 system which was finally developed reputedly cost the City a million dollars to design and install. It has only recently been completed and several pieces of literature have been issued to explain the "Plus 15 Walkway Signs", also called the "+15 Signage System". All lettering throughout the system is uniform (no logotypes are allowed). Eight sign types are used. These are briefly described in Appendix 4.9. Notes on the "+15 financial contribution" are also attached.

1.2 The Problems

1.2.1 Best-kept secret

A. Toronto's grade-separated pedestrian concourse system of walkways is one of the City's best-kept secrets. The largest of its kind, extending through a dozen blocks in the financial district and expanding rapidly with every passing year, it is at the same time both underused and underpromoted. Metro residents and visitors alike get lost. Many people either do not know about it at all, or at least do not realize how extensive it is.

B. Others are reluctant to venture into what they see as a confusing and disjointed labyrinth. Moreover, users are not encouraged to envisage the concourses as part of a system which indeed embraces - through the TTC and GO Transit - the entire Metropolitan region.

C. There is no comprehensive signage in place, and there are no maps or directories (either fixed in place or "portable" in the form of leaflets) available to help people - visitors and regular users alike - move from one complex to another, or to guide them to a specific destination, particularly if it is in another part of the system.

D. Even getting in and out of the system conveniently is difficult because it is not identified at grade level in any recognizable, consistent way. The "TTC Subway" signs, while instantly recognizable and easily understood by citizens and visitors alike, convey one message: This is the entrance to an underground railway station. The signs saying "Shopping" or "Shopping Concourse" with an arrow pointing down the steps are also inadequate, in that they ostensibly identify something local to that particular building. Other signs simply do not convey a clear message: to pinpoint just one of several examples, the symbol located above the uncomfortably steep stairwell at the southwest corner of Bay and Queen Streets - one of Toronto's busiest pedestrian precincts - looks for all the world as if it were pointing the way to a "public convenience"!

1.2.2 Numbers of owners

A. We are used to the concept of the streets being public property. A wholly new concept with which no one is fully familiar is that of the three-and-a-half miles of underground streets that constitute this network being almost entirely private property.

B. To make matters even more complex is the fact that these three-and-a-half miles of private streets are in the hands of some twenty landlords who own over thirty locations or complexes. These include hotels and department stores but do not include the individual towers that make up a given complex (T-D Centre and Commerce Court each have four, for example). To these 32 locations must be added the five TTC subway stations to complete the picture.

C. Attempting to gain consensus from such a large group is itself a major, but not necessarily an insuperable, problem.

1.2.3 Costs

A. Obviously these represent a problem. They fall into three categories: i) retrofitting existing facilities, ii) applying the system to new facilities, and iii) on-going maintenance over the years.

B. The question must be, Who will sustain these costs? Should it be the City or the individual developers? If the former, how to implement this, given that most of the system is private property and therefore lies outside City jurisdiction?

C. Assuming, for the moment, that there is consensus among the developers on the need, and the will to proceed with retrofitting existing facilities, what about the potentially even greater cost (over the years) of maintaining and up-dating the system? And what for that matter of the complexes which will only be completed some years from now?

D. These are all serious problems which the consultants have attempted to address in this Report.

1.2.4 The existing signage

A. This is identified here in the section on "problem areas" purely for convenience. But in reality it does not represent a real problem - unless the argument is evinced that this existing signage can accommodate the wayfinding needs of the floating population that uses the pedestrian system to go, for example, from the Union Station to the City Hall (or to any other destination).

B. If such an argument were to be advanced with any enthusiasm, it would be in contradiction of one of the basic tenets of efficient wayfinding systems. This is that such systems depend for much of their effectiveness upon the perceived integrity of the system itself - quite apart from its content.

C. Just as it is unthinkable that highway signs should differ in color and format with each municipality and jurisdiction through which a roadway passes, it is similarly unthinkable that a pedestrian system (and particularly one where the users are almost totally deprived of any ability to orient themselves to outside landmarks) should be considered efficient if it is presented in a myriad of colors, finishes, letterforms, mounting heights, and so on. (Besides, the existing signs in most complexes are full already. There just is no space to add information.)

D. If a wayfinding system is to be developed for Toronto's underground pedestrian walkway system, it will have to be one that has its own visual integrity, is always recognizable, and always presents information in a uniform and disciplined manner.

E. Despite everything that we have said about the need for system integrity, there is a real need also to recognize (and accommodate) the desires of the developers that whatever is placed in their complexes at this stage should be compatible from an esthetic viewpoint. We have addressed this need in Part 2 of this Report.

1.3 The objectives

1.3.1 Enhanced wayfinding

A. We have established a number of objectives, but the prime one from which all other benefits may be expected to flow is an enhanced approach to peoples' ability to find their way about the pedestrian network.

B. But, as in the case of any seriously-considered wayfinding system, this will address itself to satisfying user needs for the following types of information:
- identification (of access to, and from, the system)
- direction (to destinations)
- orientation (within the system, particularly in terms of where the user is and his what is his relationship to his destination)

C. While it may prove different in practice (once the signs are actually installed), it is not envisaged as being an objective of the wayfinding system to provide users with directions within a given complex. That function has already been adequately addressed by the developers themselves. Rather the directional system has the function of helping users to find their way to other complexes.

1.3.2 An integrated system

A. It is desirable, because of the way people assimilate information about the environment, that the wayfinding system should not rely exclusively upon signs, but should also include something portable that they can take with them as a guide.

B. Besides, information - particularly in a commercial environment - should be a mix of commercial and non-commercial. Not everybody wants to use the system as a purely utilitarian means of escaping from the weather and to get from A to B most efficiently.

C. For these reasons, an integrated system of signs, display advertisements and a hand-held guide book or map are high on the list of our objectives in conceiving of the system.

D. There is a further meaning to the word "integrated" in this context. It is another of the consultants' objectives for the new wayfinding system that it should at grade level integrate the underground system and the streets, providing users with the choice of getting to their destinations by surface or by underground - or by a combination of the two.

1.3.3 Increased tourism and economic activity

A. The theory that increased numbers of users is at least the basis for increased economic activity must be considered as valid (particularly in the context of nearly a thousand retail outlets).

B. The fact that currently large numbers of visitors come to Toronto and leave it without ever learning that the underground city exists leads one to the conviction that if they did know about it, the numbers of users would increase - and along with it economic activity.

C. The fact that currently large numbers of Torontonians make minimal or no use of the system for fear of "getting lost down there" also leads to the conviction that if they didn't feel they were going to "get lost", they would make increased use of it and that this also would lead to increased economic activity.

D. The argument that the system is underutilized is often countered by suggesting that one visit it at 8:45 a.m. or 4:45 p.m. Despite this specious argument, the place is economically thriving only between roughly 10:30 a.m. and 2 to 2:30 p.m. Increased knowledge of the system (and faith in one's ability to navigate one's way around in it) will surely lead to increasing the hours of activity - and again, have a positive effect on economic activity.

E. First Canadian Place is about to launch Saturday shopping promotion. This already represents an extension of activity because generally speaking the entire system is deserted on those days. If this experiment is successful, it will have a positive effect in influencing other complexes to join in. All of this only emphasizes the need for an effective wayfinding system.

F. It is, therefore, another of the objectives of the future wayfinding system that it should be instrumental in helping to generate greater numbers of users and that this will lead to enhanced use by tourists and enhanced economic activity also.

1.3.4 An enhanced sense of civic pride

A. Toronto has good reason to be proud of the international recognition that it has received for the quality of life that it offers and for the richness and variety of its amenities. By any standards, it is a nice place to live in and it has the reputation of being a nice place to visit also.

B. It is beneath the dignity of such a world-class city to have miles of streets that can't be used because no one (neither citizens nor tourists) can find their way about them.

C. The argument that this is private property, and that the malls are not therefore "city streets" is really not relevant. No visitor knows this and few Torontonians know it either. If they do know, they don't care. All they do know is that it is invariably a frustrating experience and they don't understand "why no one has done something about it."

D. An efficient wayfinding system would do more to coordinate and integrate the underground malls into the downtown core than any other single act. It would also add immeasurably to civic pride in this important area of the city. Besides, it would give people who explain to their friends

1.3.5 Taking care of the future

A. Concern for the maintenance of the wayfinding system, once it has been installed, is a major objective of this study.

B. While the terms of reference are clearly to determine the feasibility of having a wayfinding system installed, it would be irresponsible not be concerned about the future.

C. As a consequence, we have been at pains to search for ways of ensuring that the future maintenance of any system that is acquired and installed be a prime consideration.

1.4 The action plan

1.4.1 Stage 1: Feasibility (completed)

A. The publication of this study Report is the culmination of this initial stage of the four-stage project.

B. The objectives of the study are set forth in the preceding section.

C. As a final objective, the Report is envisaged as a master plan for the stages that follow: designing, acquiring, implementing and maintaining the information system.

1.4.2 Stage 2: Systems design, artwork, and specifications

A. This stage is a bridge between determining feasibility and the actual implementing of the uniform information system.

B. The objectives of this part of the work are to evaluate and refine the work that has been completed to date and to ensure that the completed system is as effective as it can be made from the viewpoints of cost, help to the users, and esthetics.

C. The components of this stage of the work are:
- the determination of a name for the system
- the design of artwork for the symbol, logotype and other identifiers of the system
- the completion of industrial design activities: drawings, specifications, and other documentation
- the completion of the mapping and final artwork for the maps
- consultation with the Owners on the numbers of signs required in each sign-type at each location in the pedestrian system
- calling for tenders as a means of ensuring cost-effectiveness.

D. The report addresses itself to how this stage of the work might be financed and executed.

1.4.3 Stage 3: Implementation

A. Following the calling of tenders, contracts can be awarded.

B. In the interests of cost-effectiveness and of uniformity within the system, the issue of how these contracts will be awarded, and by whom on the Owners' behalf, is the subject of later discussion in this Report.

C. Following contract award, there is the necessity for careful supervision of fabrication and installation.

1.4.4 Stage 4: Ongoing activities

A. Once the uniform information system has been installed, it must be maintained. This is an on-going and never-ending activity that must be the activity of a professional maintenance team.

B. Maintenance, as such, is not, of course, limited to keeping the signs clean and in good repair at all times. It also involves the total reliability of the information. Any, even small change in the content (such as the opening of a new facility or destination) will have the effect of requiring changes (major or minor) in virtually all of the signs. This work must be done expeditiously and efficiently.

C. In addition, there is the matter of assisting owners whose complexes at the time of writing this Report are under construction to acquire and install their component signs.

D. Other activities that relate to the financing and administration of the work in this Stage 4 are discussed later sections of this Report.

PART 2: THE SYSTEM

2.1 Wayfinding

2.1.1 The wayfinding system, generally

A. The wayfinding objectives (described in section 1.3.1) had the following characteristics:
- identification (of access to, and from, the system)
- direction (to destinations)
- orientation (within the system, particularly in terms of where the user is and what is his relationship to his destination).

B. The major characteristic of the system, however, lies in its design integrity and hence its recognizability as the overall system in the context of all of the different developers' own signage systems. To achieve this objective, a distinctive logo has been designed as the prime system identifier. In addition, the four sign types (all surmounted by this logo) have a distinctive design and color of their own which will be unobtrusive but highly recognizable. Some of the sign types have provision for the discreet display of advertising messages.

C. Identification of access to the system (currently one of the major problems) will be achieved in the following ways: by means of pylon signs (with and without maps) or by means of decals on transoms over doors and openings or signs on utility poles. The decision to use one or another sign type (see 2.1.2) will be determined by circumstances.

D. Direction to end destinations will be achieved by other pylon signs having direction arms (or "blades"). These blades will feature arrows pointing to the two polar extremes of the system (City Hall in the north and Union Station in the south). The names of TTC subway stations serve the same purpose on the east-west axes of the system. The major complexes en route will also be shown as a series of zones. (See Appendix 4.3).

E. Orientation within the complex as a whole to show users where they are located at any given time (and hence how far or near their destinations are) will be achieved by large information maps of a type that overcomes many people's problems in "reading" such information. In addition, a measure of orientation will also be provided by the directional signs which feature north-south and east-west orientation information.

F. The uniform information system is described in further detail in the section which follows (2.1.2). Because of the uniformity of its design and content, it will enormously enhance the usefulness of the pedestrian network to citizens of Toronto and to visitors. In addition, it will provide for the needs of the physically handicapped in a comprehensive way that is not now characteristic of the information displayed in the individual complexes.

2.1.2 The wayfinding system, specifically

A. The system is conceived of in terms of a limited number of sign-types, each providing users with a different category of information.

B. Sign type 1 is a major free-standing exterior pylon sign identifying access to the walkway system at grade level. These signs incorporate an identifying symbol and two maps: one is a map of the underground system overlying the downtown core of the City. The other is a map of the city blocks in the immediate environment (to a larger scale). Thus users will have the opportunity to decide whether they wish to go by surface or by underground system to their destinations.

C. Sign type 2 is also devoted to identifying access to (or exit from, in this case) the underground system. This sign type, however, has three sub-categories: 2A, 2B, and 2C. The first of these (2A) is a smaller version of sign type 1. It is also a column surmounted by the logo, but is smaller in section and has no maps. On the other hand, sign type 2B is a decal for display (in two sizes) on transoms over doors and openings. Sign type 2C is similar to parking regulation signs, affixed to utility poles.

D. Sign type 3 is a free-standing interior sign dealing with the important matter of directions to destinations. This matter is made more complex than usual because of the almost total lack of exterior visual clues that are such an assistance to wayfinding in Montreal's underground city. In addition, there is an unusually large number of destinations within the system.

E. The walkway system links over thirty individual buildings and larger complexes together. Because it is out of the question that any directional sign should contain so much information (it would be unreadable), a two-step information system has been adopted.

F. This "two-step information system" is based on the concept of distinguishing between the following three hierarchies of information:
- major "anchors" or end destinations (such as "City Hall", "Union Station", or TTC subway stations)
- major complexes or access points en route between the "end destinations just described (such as "Sheraton Centre", "The Lanes", or "First Canadian Place")
- and finally individual destinations (ie: buildings) accessed from the larger complexes.

G. The result is that users who just want to be pointed in the right direction (north or south, east or west) will be given this information. Others, seeking a given building (which may not lie on the main north-south spines of the system) will be told how to access it. For example, the directories on the directional signs will explain that to get to the Continental Bank Building, go first to The Lanes or to get to the Royal York Hotel, go to the Royal Bank Plaza.

H. It is proposed that sign type 3 may be designed to accommodate advertising as well as directory information.

J. Readers will find a list of properties in each of the zones which comprise the system in Appendix 4.3.

K. The last of the four sign types (sign type 4) is an information map in axonometric form. On it are superimposed, in pictographic form, the facilities in the system: telephones, drinking fountains, toilets, parking facilities and so on. Another feature of the map will be a clearly-marked route for persons in wheelchairs showing them alternative routes (when

available) to avoid stairs and escalators. This sign type also displays advertising messages.

L. By a process of locating the individual sign types onto plans of each building and complex joined by the system, we have arrived at a series of approximate quantity estimates. It should be noted that these estimates are preliminary and were done without consultation with the owners. The sole purpose of this procedure was to attempt to arrive at a series of reasonable, preliminary cost estimates for budget purposes only.

M. A preliminary summary of approximate quantities of each sign-type follows:

- sign-type 1 (major access): 35-45
- sign-type 2A (minor access): 40-50
- sign-type 2B/2C (at entrances): 80-90
- sign-type 3 (directional signs): 50-60
- sign-type 4 (info maps) 40-50

2.1.3 The guidebook

A. A representative of Key Publishers Ltd. has been involved in this project since its inception over two years ago. This well-known publisher of such magazines as Key to Toronto and Toronto Life has expressed his continuing interest by proposing to publish Key to Underground Toronto (or whatever the official name of the entire complex turns out to be).

B. The content of the guide will comprise editorial matter (maps, walking tours, points of special interest to visitors, etc.) and advertising.

C. The addition of Key Publishers' guide to the wayfinding system will fulfil one of the major objectives of the consultants: a truly integrated information system.

D. And because this guide will, like Key to Toronto , be in each of the four thousand or so hotel rooms in the three hotels on the system (as well as being in all other hotel rooms in the City), the results will without question promote tourist activity throughout the length of the underground system.

2.2 Cost estimates

2.2.1 General

A. It will be recognized that this feasibility Report represents Phase 1 of the project.

B. Subsequent phases of the work will involve:
- design of the system including working drawings and final cost estimates based on accurate quantities arrived at with the input of the owners; this will constitute Phase 2 (System design, artwork, and specifications)
- acquisition of the signs through an approved process and the awarding of contracts for the component elements and for installation; this will constitute Phase 3 (Acquisition and installation)
- maintenance of the system and new installations as new building complexes join the system; this is Phase 4: (Administration and maintenance).

C. All of these phases will involve costs and expenses. The proposed methods for financing each of them is the subject of the next section (Part 3) of this Report.

D. Because this is a planning phase only, the cost estimates described in this section should be considered as preliminary.

E. In order to be in a position to provide information on probable costs for acquiring the signs and installing them, the consultants have developed two alternative preliminary approaches to solving the wayfinding problems experienced by users of the pedestrian network.

F. One of these designs is round in section, the other is square. Both fulfil the objectives identified earlier in this Report.

G. Both of these designs have been brought to the design intent level only, just far enough to be able to obtain some preliminary cost estimates for budgeting purposes. There is no intention at this stage to be irrevocably tied to any design. This will be the main activity in Stage 2.

H. The consequence of this is that for our purposes in this Report, it is immaterial which design approach is eventually used. The estimated prices will remain about the same, even if radical changes are made later to these proposed schematics.

J. In addition, as noted earlier, the quantity estimates on a complex-by-complex basis are preliminary and need input from the owners. As a result of such input, numbers (and costs) per owner may vary from those provided here in Appendix 4.4.

2.2.2 Phase 2: Systems design, artwork, and specifications

A. We have earlier identified the following tasks as being required for the completion of this phase:
- determination of a name for the underground system

- finished artwork for the symbol, logotype and other identifiers of the system
- perfection of the overall wayfinding system and development of message schedules for display on each of the signs
- design of the graphics for display on each of the signs
- completion of the mapping as finished artwork for display on signs
- selection of a design for the signage system and subsequent industrial design and drafting, completion of working drawings
- coordination with owners on where signs of the various types are to be located in each complex
- drafting of comprehensive specifications for the purposes of tendering the package.

B. We estimate the cost for completing the above at $78,000.

2.2.3 Phase 3: Implementation

A. The sign package, developed in Phase 2, will next have to be tendered.

B. On the basis of our preliminary locations of signs on a property-by-property basis (as part of our work in this study), we have arrived at an estimate of costs for all of the signs required. This amounts to some $692,000. for supply and installation. At the same time, while we are satisfied with this figure as representing as accurate and complete a costing of the signs as can be expected at this time, it does not include "unknown" costs such as those for bringing power to the locations of internally-illuminated signs. (Not all of the signs are internally illuminated.)

2.2.4 Maintenance

A. On the same basis as our preliminary estimating of costs for supply and installation and on the assumption that our preliminary locations (and therefore quantities) of signs are reasonably accurate, we have estimated costs for maintenance during year 1 of operation.

B. This estimate is based on contracting the work of keeping the signs clean, retouching scratches and evidences of vandalism, and of up-dating the information content of signs on an as-required basis. The estimate includes the cost of materials required in connection with the maintenance function, such as relamping of internally-illuminated signs.

C. We have estimated these costs for the start-up year at some $60,000., including labor and materials. Also included in this figure is an allowance for design time involved in adding information to the system to reflect the addition of new complexes to the underground system.

PART 3: FEASIBILITY

3.1 Feasibility determined

3.1.1 Feasibility

A. We are satisfied that the project of installing a uniform wayfinding system in Toronto's underground pedestrian walkways is feasible.

B. The year 1986 would appear to have been the right time to have conducted the study because there is now a willingess to cooperate among the owners that was less apparent in previous years. As a result, there is real support for the basic concept of installing a uniform system of signage.

C. Equally importantly, in terms of feasiblity, in the course of this study, opportunities have been proposed for going beyond wayfinding to unifying and promoting Toronto's underground city in the manner that has brought such success to Montreal's much smaller version.

D. The overall estimated cost of just under a million dollars for designing and implementing the entire info system (see Appendix 4.4) as well as for maintaining it during the initial year is very much in line with costs sustained in analogous situations in other cities. Calgary, Alberta is a case in point and its experience is described in Appendix 4.9.

E. In addition, the total estimated cost of some $950,000. breaks down on a pro-rated basis into manageable proportions for each owner.

F. We are satisfied that this figure of $950,000. is as accurate an estimate as could be obtained under the circumstances of a study. (For the methods whereby we arrived at this figure, see the next section, 3.1.2.)

G. There is virtual unanimity among the owners on the overall need and on the general approach that we have taken in developing the basis and the rationale for the wayfinding system. In addition, there are grounds for optimism that designs can be evolved on the basis of our work to date that will satisfy the esthetic and other criteria of the owners and of the City.

H. On the subject of whether the owners are prepared to fund their pro-rata share of the cost (and of what that should be) it is more difficult to obtain "unanimity". Opinion among the majority of the owners interviewed would seem to lie between two polar opposites:
- that the whole thing should be done by the owners without the need for any help from the City
- that the whole thing should be done by the City.

J. Our recommendation is that responsiblity for funding be assumed on a split of roughly 25% for the City and 75% for the owners. (This has been generally accepted as reasonable and viable by the owners we have managed to interview.)

K. For obvious reasons, the most attractive aspect of our recommendations is the proposal that the costs of the entire program be put on a self-liquidating basis whereby the initial capital investment by the owners and the City is recovered by them.

L. The end-result of these proposals, if adopted, will be that the owners and the City will acquire a first-rate information and wayfinding system at ultimately no cost to either of them.

3.1.2 Methodology

A. Our methods in preparing the recommendations in this Report were simple and to the point:
- we interviewed as many people as we could who had direct interests in the well-being of the system
- we produced preliminary design criteria for a wayfinding system; we costed these concepts and quantified the results by a preliminary approach to the needs for signs in each complex.

B. Those interviewed or on whom we relied for help and guidance are identified in Appendix 4.10. It will be noted that the list comprises owners, mall managers, signage experts, marketing specialists, management consultants, and City officials.

C. In our interviews with the owners, our approach was invariably to ask them to consider their responses to three questions. These were:

1. Are they prepared to support the concept of a uniform wayfinding system of signage to integrate the downtown core above and below grade?
2. Assuming agreement on the first question, and assuming also the development of an acceptable design solution, are they prepared to fund their pro-rata share of the cost?
3. How did they see the problems of ownership, management and operation of the info system being overcome? Were they, in effect, in favor of the City doing this, or the owners doing it, or some other solution?

D. On the 11th June 1986 a meeting was held at the invitation of His Worship Mayor Eggleton involving all of the owners and/or their representatives. This was considered, and in fact turned out to be, an economical and effective means of briefing the owners on the issues, of providing them with a preview of our recommendations, of determining their own attitudes on the matter of cost-sharing and , finally, of exposing them to our concepts for the means whereby we saw the project being realized now and being sustained over the years to come.

E. Follow-up calls were made to many of those attending the June 11th meeting to obtain their impressions and advice to us in the formulations of this final part of this Report.

F. On the subject of design concepts, we developed these purely for the purpose of being able to cost an effective and potentially acceptable wayfinding system.

G. Accordingly, we first established criteria for the information needs of the users and then developed concepts that satisfied the criteria. Next we made preliminary attempts at determining the quantities of signs that might be required by each complex and, finally, we obtained cost estimates for the signs by type and quantities required.

3.2 Modus operandi

3.2.1 The options

A. In addressing ourselves to the issues of how to proceed with the implementation of the project and also of how to deal with the longer-term problems of maintenance and up-dating of information, several sets of options were suggested for consideration.

B. Basically, these resolved themselves into two major areas of concern:
- what constituted an equitable split between the City and the owners in terms of their sharing of the overall cost?
- how to solve the problems of acquiring the signs, managing, and operating the program?

C. On the subject of an equitable arrangement of cost sharing (as distinct from the whole cost being borne by one of the parties only), after much discussion a formula was developed (see Appendix 4.5 Sanlisco Report) whereby the investment by the City would account for some 25% of the cost while that of the owners would account for the balance.

D. On the more difficult subject of implementation, discussions focused on whether ownership,
management and operation should be undertaken by:
- the City
- the property owners
- a committee representing the owners and the city
- a manager
- a private corporation.

E. Given that virtually all of the property in the pedestrian system (apart from the City's sidewalks from which the underground system is accessed at grade level) is in private hands, there was predictably no enthusiasm for a major City involvement.

F. On the other hand, and just as predictably, neither was there enthusiasm for the idea of handing the problems back to the owners with the suggestion that they assume all of the responsibilities and the costs on the basis of an annual levy on each of them.

G. The idea of a committee representing the owners and the city owning and operating the info system was considered impractical and unwieldy.

H. The appointment of a manager was seriously considered but what could not be resolved was who would "appoint" him or her and what to do if and when this person decided to do something else.

J. As the options were discussed and narrowed to the one for which there was enthusiasm it became increasingly apparent that far more was involved that the mere acquisition of some signs - even though this is precisely how the project started off. As we observed in the objectives in Part 1 of this Report, "taking care of the future" was a major, if not the major, issue to be addressed.

K. Thus the idea evolved that the best way to ensure the future of the wayfinding system was to find a way to generate revenues on an on-going (not just a one-time) basis through the means of a private corporation representing the interests of all concerned.

3.2.2 Implementation

A. When it came to the question of how to organize, coordinate, and operate this corporation in terms of design development, acquisition and installation of signs, and finally of operating the wayfinding system, we consulted with Bruce F. Johnston who is president of Sanlisco Ltd., a management consulting firm, and with Edward J. Mannion of Mannion Enterprises Ltd.

B. Mr. Johnston's and Mr. Mannion's resumes are to be found in Appendix 4.5 of this Report. Mr. Johnston has had a successful career spanning some thirty years in organizing and operating companies in the communications field. Mr. Mannion's credentials as a business consultant are impressive as is his experience in communications and advertising.

C. They are prepared to accept the responsibility for the development and final presentation of the T·O·BELOW corporation concept to the owners and to the City. In the meantime, a summary of the Sanlisco report on how Mr. Johnston proposes the corporation be organized and operated follows. (Appendix 4.5 contains the full report.)

3.2.3 The Sanlisco Report (summary)

"In order to operate the proposed signage and on-going promotion programs, it will be necessary to have a central entity to coordinate and direct the entire operation.

"It is recommended that the entity be a corporation jointly owned by the property owners, the management of the company and the originators and designers of the concept.

"Initial funding of the corporation will be derived from the subscription for a debenture by the City and from the sale of the signs to the property owners, in consideration for which, in addition to the ownership of the signs, they will receive a majority of the equity in the company in the form of special preferred shares. These shares will be convertible to common shares, and therefore control of the company, if the corporation does not achieve the agreed objectives in a reasonable period.

"Those objectives will be to operate the program, and future extensions to it, in such a way that it will generate sufficient revenues to cover the costs of maintenance and promotion, repay the debenture, recover the net cost of the signs to the owners and return a profit to the shareholders.

"The promotion of the entire T·O·Below complex as a place to see and experience, to shop and to dine, will be a major responsibility of the T·O·Below corporation and will result in increased domestic and tourist traffic, increased tenant sales and thus rental revenue to the property owners."

3.2.4 Recommendations

1. The development and installation of a uniform wayfinding system is desired, necessary and feasible and should be implemented immediately.

2. For purposes of identification and promotion the entire underground city complex should be named T·O·BELOW.

3. The implementation, management and operation of the system and promotion and marketing of the entire T·O·BELOW complex should be in the hands of a private corporation acting on behalf of the property owners and the City.

4. The corporation should be operated on a self-sustaining basis and ensure that the initial investment by the owners and the City is returned to them.

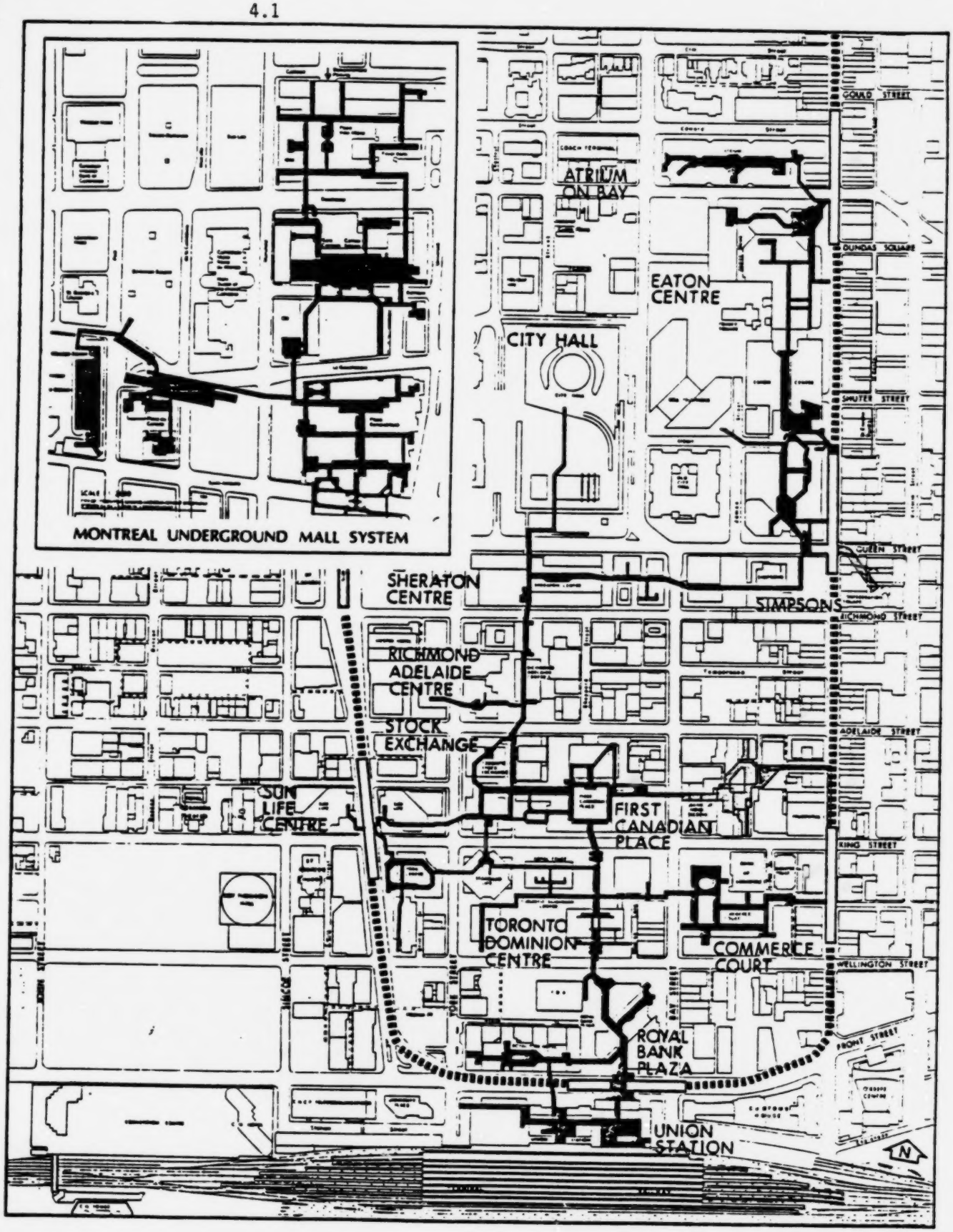
5. The share of the initial investment by the City should be approximately 25% with the property owners supplying the balance.

6. The structure and objectives of the private corporation, as outlined in the Sanlisco Report (see Appendix 4.5), should be approved in principle.

7. In order to protect the name and to ensure its availability, Sanlisco has incorporated an Ontario company under the name T·O·BELOW, Inc. Sanlisco should be authorizied to develop and submit a detailed proposal for the company and its operation for approval by the City and the property owners.

4.0 APPENDIX

4.1 Toronto and Montreal underground systems compared



EXISTING
FUTURE
PEDESTRIAN MALL AND/OR WALKWAY
SUBWAY STATION

DOWNTOWN UNDERGROUND PEDESTRIAN MALL SYSTEM

REVISED : JAN. 1984

CITY OF TORONTO PLANNING AND DEVELOPMENT DEPARTMENT
STEPHEN G. McLAUGHLIN, COMMISSIONER DECEMBER 1983

4.2 List of owners and their properties

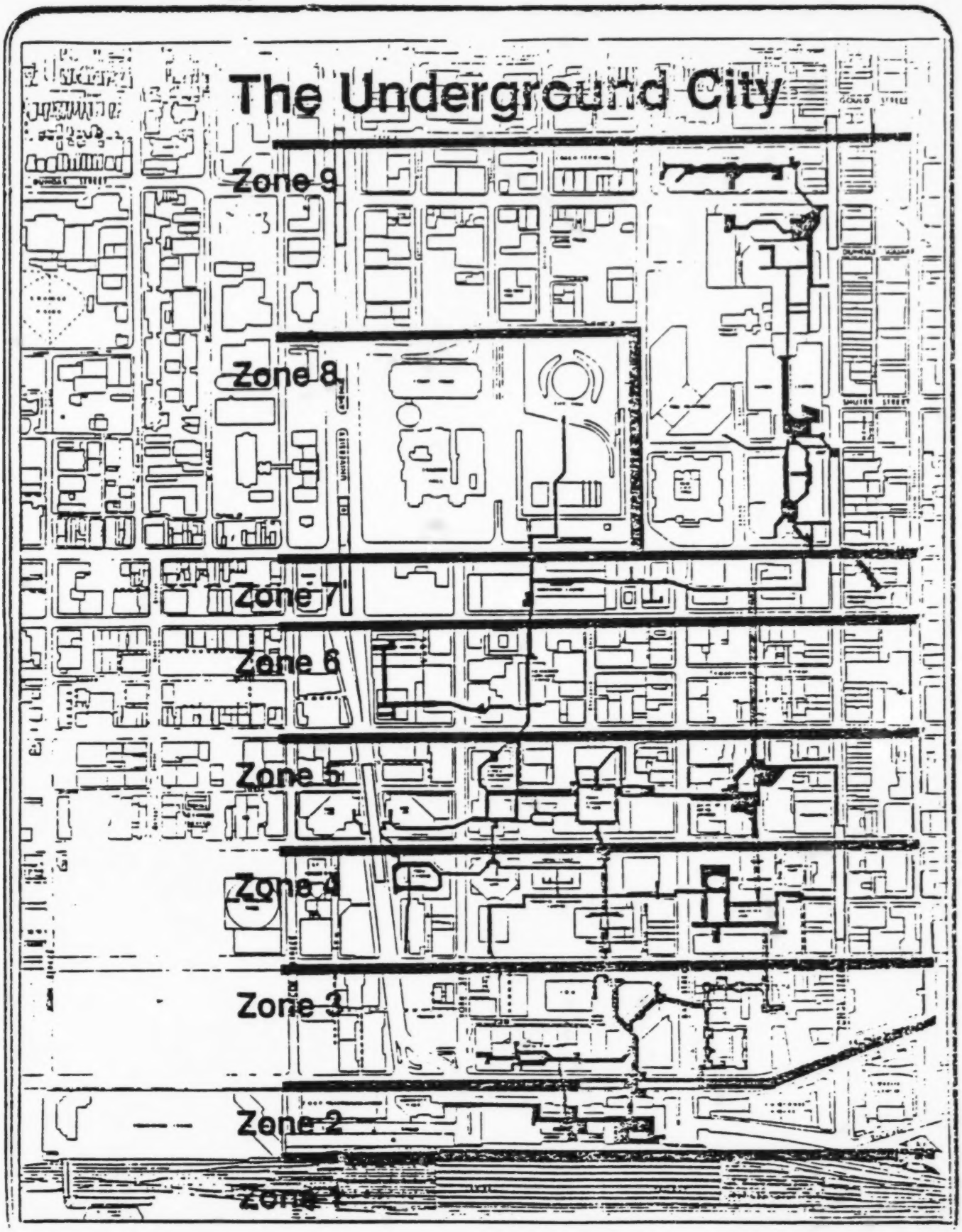
Owners	Properties
Bell Canada	Bell Trinity Square
Cadillac Fairview Corporation Limited T Eaton Realty Company Limited	Eaton Centre
Cadillac Fairview Corporation Limited	Toronto-Dominion Centre
Campeau Corporation Limited	(Scotia Plaza)
Canadian Pacific Hotels Limited Marathon Realty Company Limited	Royal York Hotel
City of Toronto	City Hall
David Dennis Confederation Life Insurance Company Third Generation Realty	Thomson Building
Royal Bank Realty Inc. Globe Realty Management Limited	Royal Bank Plaza
ITT Industries of Canada Limited City of Toronto Sheraton Centre Hotel	Sheraton Centre
Lehndorff Property Management Limited Munich Holdings Limited Munich Reinsurance Company	390 Bay Street
Marathon Realty Company Limited	University Place
National Trust Company Abak Estates Limited	(95 Wellington St W)
National Trust Company	Commerce Court
National Trust Company Olympia & York Developments Limited	Aetna Canada Centre
Olympia & York Developments Limited	First Canadian Place
Oxford Development Group Limited	(BCE Place) National Bank Building Continental Bank Building 111 Richmond Street W The Lanes
Oxrapp Limited (Oxford) Guardian Insurance Company	Guardian Tower
Royal Trust Corporation of Canada Trustee Standard Life	Standard Life Centre

Owners	Properties
Simpson's Limited Knox Church Trustees Markborough Properties Limited	(Simpson's)
Sun Life Assurance Company of Canada	Sun Life Centre
Toronto Terminals Railway Company City of Toronto	Union Station
Toronto Transit Commission	Dundas station Queen " King " Union " St Andrew "
Twigg Holdings Limited Trizec Equities Limited	Atrium on Bay
Uniwell Developments Limited	55 University Avenue
Westin Hotel Company Limited	Westin Hotel
This list comprises individual Owners.	This list totals some 33 locations which are joined by the pedestrian system. Those under construction are identified in brackets ().

4.3 List of properties by zone and their owners

Zone	Property	Owners of record
2	University Place	Marathon Realty Company Limited
	Union Station	Toronto Terminals Railway Company City of Toronto
	Union (TTC)	Toronto Transit Commission
3	(95 Wellington St W)	National Trust Company Abak Estates Limited
	IBM Tower	Cadillac Fairview Corporation Limited
	Royal York Hotel	Canadian Pacific Hotels Limited Marathon Realty Company Limited
	Royal Bank Plaza	Royal Bank Realty Inc. Globe Realty Management Limited
	(BCE Place)	Oxford Development Group Limited
4	Aetna Canada Centre	National Trust Company Olympia & York Developments Limited
	55 University Ave	Uniwell Developments Limited
	Standard Life Centre	Royal Trust Corp of Canada Trustees Standard Life
	Toronto-Dominion Centre	Cadillac Fairview Corporation Limited
	Commerce Court	National Trust Company
	King (TTC)	Toronto Transit Commission
5	Sun Life Centre	Sun Life Assurance Company of Canada
	First Canadian Place	Olympia & York Developments Limited
	(Scotia Plaza)	Campeau Corporation Limited
6	Westin Hotel	Westin Hotel Company Limited
	Guardian Tower	Oxrapp Limited
	National Bank Building	Oxford Development Group Limited
	Continental Bank Building	" " "
	111 Richmond Street W	" " "
	The Lanes	" " "

7	Sheraton Centre	ITT Industries of Canada Limited City of Toronto Sheraton Centre Hotel
	Thomson Building	David Dennis Confederation Life Insurance Company.
	3.0 Bay Street	Third Generation Realty Lehndorff Property Management Limited Munich Holdings Limited Munich Reinsurance Company
	(Simpson's)	Simpson's Limited Knox Church Trustees Markborough Properties Limited
8	City Hall	City of Toronto
9	Eaton Centre	Cadillac Fairview Corporation Limited T Eaton Realty Company Limited
	Bell Trinity Square Atrium on Bay	Bell Canada Twigg Holdings Limited Trizec Equities Limited
	Queen (TTC) Dundas (TTC)	Toronto Transit Commission " " "


The Underground City
Zone 9
Zone 8
Zone 7
Zone 6
Zone 5
Zone 4
Zone 3
Zone 2
Zone 1

4.4 Budget costs for signs by owner and property

Owner	Property	City share	City sub-total	Owner share	Owner sub-total
Bell Canada	Bell Trinity Square			$14,000.	$14,000.
CF/Eaton Realty	Eaton Centre			81,000.	
Cadillac Fairview	T-D Centre			74,000.	
	IBM Tower			4,000.	159,000.
Canadian Pacific Hotels	Royal York Hotel	$4,000.	$4,000.	20,000.	20,000.
City of Toronto	City Hall	6,000.			
	TTC: Dundas	–			
	Queen	5,000.			
	St Andrew	–			
	Union	13,000.			
	King	–			
	Underground Pkg.	15,000.	39,000.		
D Dennis, et al	Thomson Building	4,000.	4,000.	8,000.	8,000.
Royal Bank/ Globe Realty	Royal Bank Plaza			42,000.	42,000.
Lehndorff/ Munich	390 Bay Street			7,000.	7,000.
Marathon Realty	University Place			9,000.	9,000.
National Trust	Commerce Court			65,000.	65,000.
Olympia & York / NT	Aetna Canada Centre			38,000.	
	First Canadian Place			95,000.	133,000.
Oxford Developments	Guardian Tower			16,000.	
	National Bank Building			9,000.	
	Continental Bank Building			13,000.	
	111 Richmond St W			13,000.	
	The Lanes			34,000.	85,000.
Standard Life / RT	Standard Life Centre			19,000.	19,000.
Sheraton / ITT/ City	Sheraton Centre			34,000.	34,000.
Sun Life Assurance	Sun Life Centre			15,000.	15,000.
Tor Term Rlwy / City	Union Station	4,000.	4,000.	29,000.	29,000.
Trizec / Twigg	Atrium on Bay			33,000.	33,000.
Uniwell	55 University Ave			11,000.	11,000.
Westin Hotel	Westin Hotel			16,000.	16,000.
Sub-total:			$51,000.		$699,000.
Total:					$750,000.

4.5 The Sanlisco Report

SANLISCO

June 30, 1986

Mr. Paul Arthur
Newton Frank Arthur Inc.
133 King Street East
Toronto, Ontario

RE: PROPOSED WAY-FINDING SIGNAGE SYSTEM
FOR TORONTO'S UNDERGROUND CITY

Attached is my report on the subject of a structure to manage the installation and maintenance of the proposed signage system.

It is my conviction that the signage system is a mandatory first step to the establishment of the knowledge, understanding and promotion of the complex as a unified entity. The on-going promotion of the complex to the various publics represents the real ability to increase traffic and sales for the tenants and thus revenues for the owners.

It must be realised that the numbers used in the examples in the report are very preliminary, almost hypothetical, at this stage. They serve to illustrate the concept, which in turn will be the subject of a further detailed assessment if the report receives approval in principle.

I believe that I, and my associate Ed Mannion whom you have met, represent a uniquely qualified combination of knowledge and experience to establish and direct the recommended corporation. We know the market, the advertising, promotion, publishing and public relations business, and we know the kinds of people that would be needed to operate the enterprise.

We believe that the name T-O-BELOW is unique, descriptive and extremely promotable as well as memorable. In order to ensure its viability and availability, as well as to protect it for this project if it goes forward, we have incorporated an Ontario company by that name. It merely remains for the logo and any symbol to be designed in order to register the trademark. I understand that your firm is now working on that aspect.

Yours truly,

President

B. F. Johnston

Sanlisco Ltd., 1368 Ravine Drive, Mississauga, Ontario L5J 3E7 (416) 822-8034

Proposed wayfinding signage system for Toronto's underground city

It is self-evident that some central authority or entity will be required in order to coordinate and direct the entire project.

The initial project will consist of three phases:

1. Design and Installation

a) ***Design:*** completing the initial design of the various elements of the signage system to final approval
b) ***Specifications:*** writing the specifications for each type of unit in the system
c) ***Purchase:*** calling for bids, selecting a supplier, or suppliers, and letting the contracts
d) ***Installation:*** coordinating the modifications that each property owner will be required to make to accommodate the new signage and supervising its installation

2. Maintenance and expansion

a) ***Design extension and modification:*** as the system is expanded additional signage will be required and existing signs will have to be modified accordingly
b) ***Labor:*** full-time, part-time and/or contract staff will be required to maintain the system in working order at all times
c) ***Materials:*** a stock of materials will have to be maintained or procured for repairs and replacements
d) ***Supervision:*** the above activities will have to be monitored and supervised

3. Advertising and identification program

a) ***Design coordination:*** it will be necessary to ensure that the physical dimensions of the space designated for advertising, retail and tenant identification is not only suitable for the system, but is also the optimum in terms of marketability and material production
b) ***Material specifications:*** once the space availabilities have been determined, specifications will be required for the producers of the materials to be used
c) ***Pricing:*** it will then be necessary to establish a price structure and rate card for the various kinds of space
d) ***Selling:*** the method of selling will have to be determined and supervised; whether by paid staff, commission salesmen or by contract to third parties
e) ***Copy approval:*** particularly as it applies to the identification panels, an approval system will be necessary to ensure that the desired level of quality is maintained
f) ***Installation and maintenance:*** depending on the sales arrangements, copy materials will have to be installed, removed, replaced and maintained

Thus it becomes evident that the coordinating entity's activities and responsibilities will not end when the initial system is installed, but will be an on-going operation.

How should the central authority be organized?

There are five options to consider:

1. ***The City of Toronto.*** At first glance this appears to be the obvious choice. However, there are two major considerations that mitigate against it:
a) the vast majority of the property on which the signage will be erected is private, not public property
b) the City could be perceived to be supporting one segment of the business community to a greater extent or to the detriment of others such as the harbourfront area, the surface establishments, the Bloor area, etc.

2. ***The property owners (of which the City is one).*** As a total, and expanding, group this would obviously be too unwieldy and would consist of people who are busy with their own interests.

3. ***A committee of the owners:*** Apart from the known inefficiencies of adminstration by committee, its members would no doubt be otherwise preoccupied if not extensively unqualified (to paraphrase Galbraith).

4. ***An association with a paid manager.*** This could be a viable option, provided the owners are prepared to fund the on-going costs of operation and are willing to accept the fact that the type of individual that might be attracted to such a position could be less motivated or capable than the ideal.

5. ***A separate corporation.*** A company franchised to operate the system on a profitable basis and to develop other promotions and activities to establish the complex as a total entity and to stimulate its recognition, perception and usage or business turnover.

It is recommended that option #5, a separate profit-oriented corporation with board and ownership participation by the owners, be selected.

Initial objectives of the corporation

1. ***To direct and operate*** all phases of the way-finding signage system as previously outlined.

2. ***To generate sufficient revenues to cover:***
a) on-going costs of maintenance and expansion
b) repayment of initial capital investment, and
c) return a profit to the shareholders.

However, as we studied the project, we became convinced that the proposed wayfinding system, while a mandatory first step in the unification and utilization of the complex, is only the beginning of a program to make it a cohesive, recognized entity.

This is the largest complex of its kind in North America, below or above the surface. The important opportunity is the potential to make it widely known, understood and utilized by publics from all over, - tourists, urban and suburban residents - not solely the occupants of the connected buildings and local pedestrian traffic.

Therefore we recommend that the on-going functions of the company, and ultimately its primary objectives, should be:

3. ***To promote Toronto's underground city as:***
-a place to see and experience
-a place to shop
-a place to entertain
-a place to be entertained, and
-a place to do all these things with ease, convenience and in total comfort no matter what the weather

and as a result of these activities:

4. ***To increase domestic and tourist traffic.*** Also to increase the proportion of that traffic that is going to the complex as a destination rather than merely passing through.

5. ***To increase tenant sales,*** and thus the rental income to the property owners.

Start-up costs

Design and development costs		
- to date	$ 38,000.*	
- to complete signage design	60,000.	98,000.
Cost of signs		
- initial estimate (including installation)	642,000.	
- contingency allowance for revisions and additions	50,000.	
- first year maintenance		
design fees for expansion	12,000.	
labor and supervision	40,000.	
materials	6,000.	750,000.
Operating company		
- management fees	36,000.	
- temporary staff	12,000.	
- expense contingency	9,000.	
- staff recruiting	3,000.	
- incorporation and legal fees	2,000.	62,000.
- working capital		60,000.
		970,000.

Funding

By property owners (excluding the City)			
- from purchase of signs		699,000.	72.1%
By City			
- fee for feasibility study	20,000.		
- from purhase of signs	51,000.		
- debenture from operating company	200,000.	271,000.	27.9%
		970,000.	100.0%

* Of the $38,000. incurred to date $20,000. has been recovered as a fee paid by the City for the feasibility study. The total of the additional design costs would therefore be $78,000.

In the example on the previous page $750,000. of the estimated capital requirement comes from the sale of the signage to the property owners. There are several ways this funding could be accomplished. As an alternative the company could own the signs and the financing could be made through preferred stock alone.

However, it is not expected that the profits of the operating company will be sufficient, particularly in the initial years, to allow it to recover the amount of money through depreciation that could be achieved by the owners themselves. Apart from the actual availability of profits to effect the recovery there is also the difference in tax rate, since the operating company will only be subject to a 25% rate on the first $200,000.

That is the basic reason for the recommendation that the company sell the signs to the owners and distribute low cost preferred shares to them on a pro rata basis.

As an example, the recovery of the capital to the owners, assuming a 50% tax rate and an allowable depreciation rate of 20% on the diminishing balance, could look like this:

Book value	Dep'n	Capital Recovery	Dividend	Annual Recovery	Cumulative Recovery
750,000	150,000	75,000	37,500	112,500	112,500
600,000	120,000	60,000	37,500	97,500	210,000
384,000	76,800	38,400	37,500	75,900	371,400
307,200	61,440	30,720	37,500	68,220	439,620
245,720	49,152	24,576	37,500	62,076	501,696
196,608	39,322	19,661	37,500	57,161	558,857
157,286	31,457	15,729	37,500	53,229	612,086
125,829	25,166	12,583	37,500	50,083	662,169
100,663	20,133	10,066	37,500	47,566	709,735
80,530	16,016	8,053	37,500*	45,553	755,288

* In the 11th year the company would redeem the preferred shares instead of paying a dividend, the total capital outlay would be recovered, and the owners would have a residual book value of $80,000. for continuing depreciation recovery.

The proposal envisages the issue of 75,000 preferred shares with a cumulative annual dividend of 50 cents per share.

Those preferred shares would be convertible to common shares if the company passed the dividend for two successive years. Thus, if the company issued 50,000 common shares, on conversion, the property owners would have 60% of the total voting shares and would control the company.

Projected annual revenue

The following revenue projection has been made on the basis of the preliminary signage design used for the feasibility study. It would obviously be subject to revision once the final plans were completed.

It was constructed on the basis of competitive rates to current published rates of other media (column A), absolute minimum rates having regard to some current discount practices (column C), and a median (column B) which should be easily realizable given the unique nature and size of this particular universe.

	A	B	C
Advertising			
184 panels @	300/mo	200/mo	100/mo
Total annual	660,000	440,000	220,000.
Less:			
sales commission (20%)	132,000	88,000	44,000
agency commission (15%)	99,000	66,000	33,000
	231,000	154,000.	77,000.
Potential gross revenue	429,000	286,000	143,000.
At an 80% sold level	343,000	229,000	114,000.
Retailers			
252 panels @	35/mo.	30/mo.	25/mo.
Total annual	106,000.	91,000.	76,000.
Tenants, sponsors			
42 panels @	125/mo.	100/mo.	75/mo.
Total annual	63,000.	50,000.	38,000.
Total revenue	**512,000**	**370,000**	**228,000**

No provision has been made for commissions on the retailer and tenant/sponsor panels because of their more permanent nature and the limited number available. It is envisaged that these would be easily saleable by the operating company staff.

Future operations and sources of revenue

If the proposals are accepted in principle it will then be necessary to prepare a detailed operating plan, corporate structure, financial plan and outline of potential projects with priorities.
The first step will be the adoption of a name for the complex and a design for its symbol and logo. The name that has been recommended, T O BELOW, would lend itself perfectly to the overall promotion activities. It is unique, memorable and descriptive.

T·O·BELOW- The place to go ...

You'll never fight rain, or sleet, or snow
Whenever you shop at T·O·BELOW

The people who know
Shop at T·O·BELOW

The name of the corporation would be T·O·BELOW, Inc. It , in turn, would form a retail association - the T·O·BELOW Retail Merchants' Association - thus creating a source of revenue from annual dues.

The concept would be to produce cooperative or franchised promotions, materials and programs which would provide cost-efficient results or advantages to the participants, would defray the costs of the overall program and provide a profit incentive to the corporate management.

Examples of such activities could include:

-Pocket guides and maps
-Special sales events
-City, suburban and tourist advertising
-Inclusion in government tourist promotion
-Publicity
-Feature articles
-Integrated retail promotions
-Special publications
-Sales items, souvenirs, T-shirts, etc.
-An identified, cooperative home delivery system
-Parking and public transportation incentives.

and so on.

The possibilities are limitless. It only requires a creative, motivated, capable management to get the desired results.

Resumes

Bruce F. Johnston

Bruce F. Johnston is a graduate of the faculty of Engineering at McGill University. He joined McKim Advertising Limited over thirty years ago, after five years with Lever Brothers Limited in Canada and the United Kingdom as an international management trainee and group product manager.

In 1961 he was one of the founding members of The Spectrum Group Limited, which controls McKim. As its Executive Vice-President, he initiated a program of diversification and acquisition which resulted in Spectrum becoming the largest Canadian-owned group of companies in the advertising and related communications service business. He was elected Presicent and Chief Executive Officer of McKim in 1966 and retired as Chairman and President of The Spectrum Group in 1984.

Prior to, and since his retirement, he has also been actively engaged with other companies in the advertising and communications business in Canada and the United States as a management consultant, director and shareholder.

During the ten years of Spectrum's association with Benton & Bowles of New York he served on their European Executive Committee as it developed its network of overseas affiliates and jointly established a mutually owned subsidiary under the Benton & Bowles name in Canada.

He is a Past President of the Institute of Canadian Advertising and was the founding Chairman of its Board of Governors.

Edward J. Mannion

Edward J. Mannion, retired Chairman and Chief Executive Officer of Southam Communications Limited (1978-1984), is a communications and business consultant.

For ten years prior to becoming CEO of Southam, he was President of Southstar Publishers Limited (jointly owned by Southam and the *Toronto Star*). At the same time he was publisher of the *Star Weekly, Canadian Homes,* and *The Canadian* magazine.

Simultaneous with these duties, he was Chairman of Magnamedia, which represented the publications listed above as well as *Weekend* magazine, and *Perspective* (Quebec).

Mr. Mannion began his career in the newspaper business and during his twenty years with the Thomson chain he became General Manager of the US company.

4.6 Mapping and photo survey

A. Prior to this study, information on the extent and size of the underground system of pedestrian walkways had not been kept up to date.

B. We have completed the mapping of the system with the result that the map shown here truly represents the current status as well as that of projected walkways that will shortly be added to the system.

C. Also in the course of this study we have thoroughly documented the system in an extensive series of photographic slides and color prints. This collection of photographs is available for inspection at the consultants' offices. It is organized on a complex-by-complex basis.

4.7 Letter from Key Publishers

APR 8 1986

KEY
PUBLISHERS
COMPANY
LTD.

59 Front Street East, Toronto, Ontario M5E 1B3, Phone (416)364-3333

April 4, 1986

Paul Arthur
Newton Frank Arthur Inc.
135 King Street East
Toronto, Ontario
M5C 1G6

Dear Paul:

Here is an outline of what Key Publishers proposes for a self-financing guide to Toronto's underground system.

Its distribution to the visitors' market would be assured by way of inclusion in Key to Toronto. This monthly magazine is placed directly in hotel and motel rooms throughout Metropolitan Toronto and has an estimated readership of 45 million visitors each year and growing.

Yours very truly,

Sidney J. Cohen

SJC:nf

cc. Michael de Pencier, Chairman
Key Publishers Company Ltd.

Bernard Dunn, Publisher
Key to Toronto

4.8 Advertisement in the New Yorker for the Montreal system

Facsimile of advertisement which is placed periodically in The New Yorker magazine and other publications in the United States.

Note how "The Underground City" is identified as one of Montreal's chief attractions. Fully 20 percent of the limited text of the advertisement is devoted to it.

Bonjour, America. Montréal awaits you.

The arts, big-time sports, exciting nightlife and the greatest restaurants...they're all yours in Montréal, the French city of America, where your U.S. dollar stretches 20 percent further.

Montréal spoils you at hotels with Old World elegance and New World efficiency. Old Montréal, offers you 17th-century architecture, cobblestoned streets, stoned churches...and an ongoing air of celebration so typical of Montréal's *joie de vivre*.

The underground city is Montréal's futuristic answer to incredible shopping in chic boutiques.

Montréal says *bienvenue*—in French, in English and in a host of other languages.

Come. Indulge yourself.

For further information:

Montreal Convention and Tourism Bureau
Dept. M12, 360 Lexington Avenue,
New York, NY 10017
(212) 599-2724

4.9 Data on the Calgary +15 System

The purpose of the committees is to assist in the implementation of the +15 System as well as act as a sounding board for changes in +15 policies, priorities and operational matters.

The +15 Coordinator acts as Chairman of each committee and is responsible for maintaining representation, keeping records, etc.

NOTE:

The +15 Civic Committee currently exists. It acts as a "working" committee, meeting approximately 20 times per year. The +15 Public Advisory Committee would be established following adoption of this policy. Its involvement would be more limited, with the number of meetings to be set at approximately 4 to 6 per year.

3. +15 FINANCIAL CONTRIBUTION FORMULA

The Land Use By-law rules for development in the Downtown are based upon a system in which:

a) sites are permitted to build up to a base density (e.g. 7 F.A.R. in the CM-2 Land Use District), provided that certain mandatory requirements are met; and

b) beyond that base, additional density may be granted in exchange for construction of certain bonus features.

One of the mandatory requirements required to achieve base density is the +15 financial contribution. Some of the bonus features available above base density involve improvements to the +15 system.

The requirements and the bonus options for developer initiated projects are outlined in the Land Use By-law. While the +15 financial contribution requirement is contained in the By-law, the formula used to determine the amount of contribution is established in this policy.

The +15 financial contribution formula is designed so that redevelopment of every site within Calgary's Downtown to maximum base density would provide sufficient funds to complete the +15 system.

Since total redevelopment is not likely to occur (i.e. some blocks will not redevelop: others will redevelop at lower densities than the base), the bonus system contained in the Land Use By-law provides a valuable and necessary supplement for system development. Developers who elect to build +15 bridges and lane links to acquire additional density will assist +15 system development by freeing funds to be spent elsewhere within the system.

The second part of the formula [(.75 x DD*/BD) + .25] adjusts the amount of contribution by the density of development proposed on the site. Those developments building to the maximum base density (or beyond) are charged the full share of costs. Those developments building at densities less than base density have their contribution reduced. The amount of reduction is based upon a 25 percent fixed charge associated with the site itself and a 75 percent charge that varies with the density involved.

3.1 Estimation of Formula Component Costs

Cost of the +15 system in Area A is estimated on the basis of a typical Downtown block and includes 4 half bridges and 3 lane links which are enclosed and environmentally controlled.

For the purpose of formula calculation, bridges and lane links are to be 4.5 metres in width: stairwells are to be 2 metres in width.

The Planning & Building Department will submit estimates of component costs twice a year with advice from the Engineering Department. The estimates are to be submitted to Board of Commissioners. Following Board adoption, the estimates shall be used in +15 financial contribution calculation.

3.2 Standard +15 Financial Contribution Formula

The +15 financial contribution is derived as follows:

$$X = \left[C \times \frac{SA}{BA} \left[(.75 \times \frac{DD^*}{BD}) + .25\right]\right]$$

where:

X = amount of +15 contribution required
C = cost of construction for a standard city block
SA = site area of the development
BA = area of the block on which the development is located
DD* = density of the development (where the actual density of the development exceeds BD, DD* = BD)
BD = base density (maximum density permitted without bonus utilization)

The +15 financial contribution formula is intended to equitably distribute +15 system cost among property owners. The first part of the formula (C x SA/BA) assigns the cost of +15 system development for a typical block to properties based upon the proportion of the block taken up by the site.

3.3 Formula Variations

3.3.1 +15 Financial Contribution Formula Adjusted for Additions to Existing Developments

The adjusted +15 financial contribution formula is:

$$X = \left(C \times \frac{SA}{BA} \times \left(.75 \times \frac{DND^* - DED^*}{BD}\right)\right)$$

where

X = amount of +15 contribution required
C = cost of construction for a standard city block
SA = site area of the development
BA = block area on which the development is located
DND* = density of the new development (where the actual density of new development exceeds BD, DND* = BD)
DED* = density of the existing development (where the actual density of existing development exceeds BD, DED* = BD)
BD = base density (maximum density permitted without bonus utilization)

The adjusted formula is designed to avoid "double-charging" and only takes into account the additional density to be built. The developer is not charged for the existing density of development nor the site area contribution (".25" in the Standard Formula, see Section 3.2).

3.3.2 Parking Lots At Grade and Other Similar Uses

Parking lots at grade and other uses that do not involve an increase in density are exempted from the +15 financial contribution.

3.4 Management of the +15 Fund

+15 contributions shall be held in an interest bearing account and interest received shall be treated as part of the +15 fund.

Utilization of monies from +15 fund shall only be for the purposes of constructing or improving elements of the +15 system including +15 bridges, lane links, walkways, stairs and supports, signage, and associated public spaces. Board of Commissioners approval is required for +15 fund expenditure.

+15 SIGNAGE STANDARD

ELEMENT AND FUNCTION

1. +15 Symbol

To identify the +15 system.

Used on other sign and graphic elements to provide consistent and recognizable identification.

2. i) Maps

To indicate +15 routes.

and

ii) Compass Ring

To orient the pedestrian.

To indicate direction, and the next building on the system in that direction.

Installed at intersection or other decision making points.

3. Overhead Sign

To indicate direction and next building on the +15 system.

Installed at entrances to +15 bridges or corridors leading to a bridge.

4. Stair Symbols

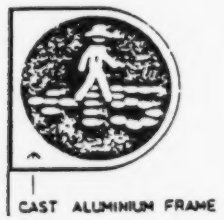
To indicate stair entrance at grade or +15 levels.

Installed at stair entrance.

ELEMENT AND FUNCTION

5. +15 System Access

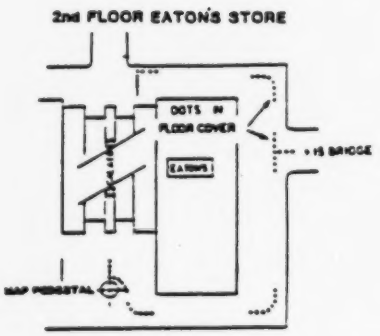
Indicating entry points, usually at street level, that provide access to +15 system.



6. Floor Circles

To indicate +15 walkway.

Installed at intersection points, corners, map installations and in corridors where reinforcement of the "publicness" of the system is necessary.



7. Street Sign on Bridge

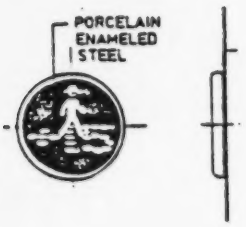
To inform pedestrian of the street or avenue being crossed.

Installed from ceiling at mid-point of bridge.

8. Elevator Button

Indicating +15 level.

Installed on elevator button panel adjacent to 2nd floor button.



4.10 Acknowledgements

4.10.1 Interviews with:

David Weinberg Vice President, Urban Development	**Cadillac Fairview Corporation Limited**
C Magwood Chief Executive Officer	**Stadium Corporation of Ontario Limited**
John Dennis Manager	**Eaton Centre**
John Maxwell Centre President	**Metro Toronto Convention**
William Duron President	**Metropolitan Toronto Convention and Visitors Association**
Harriett Tyrell Director of Retail Operations **Susan Somers** Promotions Manager	**Olympia & York Developments Limited**
David Thomson Executive Vice-President (Toronto)	**The Oxford Development Group Limited**
R. Lewis President and General Manager	**The Parking Authority of Toronto**
John Harrison Vice President Property Investment **E R Gosse** Property Management Officer for Canada	**Sun Life Assurance Company**
A Allendorf	**Toronto Board of Trade**
Ross Poyntz Vice President and General Manager	**Toronto-Dominion Centre**
A J Gallo Manager, Marketing and Community Relations **Brian Drew** Marketing Coordinator	**Toronto Transit Commission**
K Herbranson Vice President and General Manager **David Hamilton** Manager **Lin Jones** Promotions Manager	**The Sheraton Centre**

4.10.2 Assistance from:

L. P. Burak
Signage specialist

V. Davita
CDA Industries Limited

Bruce F. Johnston
Sanlisco Limited

Edward J. Mannion
Mannion Enterprises Limited

H. Pellow
Pellow Architect Inc.

B. Pickersgill
Vice President, Design and Construction
Campeau Corporation

4.10.3 Collaboration with City Planning personnel:

City of Toronto Planning and Development Department	**Peter Tomlinson** Director Economic Development Division
	Judy Morgan
	Larry Hodgson
Urban Design Group	**Kenneth Greenberg** Manager
	David Dennis Project Coordinator Central Toronto and Waterfront

4.10.4 Attended meeting June 11, 1986:

Alderman Dale Martin's Office	Judith Forrestal
Barton Aschman Associates Ltd.	Eward J. Levy
Bell Canada	D. F. Boswell
Board of Trade	Bob Christie
Bramalea Limited	B Lipsey
Cadillac Fairview Corporation Ltd.	David Weinberg Ross Poyntz

Campeau Corporation	David Thompson
Canadian Imperial Bank of Commerce	J. Taylor
City Property Department	Gord Bissets Rashmi Nathwani
Dennis Commercial Properties	A. McAllan T. McDonald
Globe Realty	Lynne DuBeau
Key to Toronto magazine	Wendy Ingram
Key Publishers	Sid Cohen Michael Rea
Lehndorff Property Management Ltd.	Arlene Taylor for Mark Janzen
Marathon Realty	Rod Patrick
Metro Toronto Convention and Visitors Association	Greg McKnight
N. Barry Lyon Consultants	Erin O'Connor
Olympia & York	Harriett Tyrell
Oxford Developments	John W. Smith Ray Wolf
Parking Authority of Toronto	John Sherk Robert Howald
Royal York Hotel	J Haunts Randy Heyd
The Sheraton Centre	Megan Johnson
Simpson's Limited	Bob Cooper Don Rogers
Sun Life Assurance Company	John H. Harrison E. R. Gosse
T. Eaton Company Ltd.	Donald MacLelland
Toronto Terminals Railway	G. H. Geddis
Toronto Transit Commission	A Gallo
The Westin Hotel	Janet Richardson

The City of Toronto
Arthur C. Eggleton
Mayor

May 30, 1986.

Mr. Paul Arthur,
Newton Frank Arthur Inc.,
135 King St. E., 3rd Foor,
Toronto, Ont. M5C 1G6.

Dear Mr. Arthur:

I would like to invite you to attend a meeting on June 11, 1986 at 5:00 p.m. in the Royal York Hotel to discuss the possible installation of a "uniform signage and wayfinding system" throughout our downtown Toronto underground pedestrian shopping malls.

We at the City feel that such a signage system would greatly improve people's ability, both that of our own citizens and our many visitors to find their way around our "underground city" and therefore to make greater use of this outstanding facility.

Our consultants have prepared a report evaluating the feasibility of designing and installing such a system, and we would like to present this information to you at the meeting. It is our hope that there will be concurrence with our belief that the benefits from having the system clearly signed warrant the small investment which would be entailed in its installation.

The enclosed information package will provide you with more detail about the feasibility study and the proposed system. Please confirm your attendance with Judy Morgan in our Planning and Development Department at 392-7571. If it is not possible for you to attend personally, I hope one of your colleagues can attend on behalf of your organization.

We look forward to seeing you at 5:00 p.m. on June 11, 1986 in the Nova Scotia Room at the Royal York Hotel.

Sincerely,

City Hall, Toronto M5H 2N2, Canada. (416) 392-7001